

# PATENT SPECIFICATION



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568,958

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Complete Specification Accepted: April 27, 1945.

## PROVISIONAL SPECIFICATION

### Improvements in Vacuum Cleaners

We, THE GENERAL ELECTRIC COMPANY LIMITED, of Magnet House, Kingsway, London, W.C.2, a British company, and FRANK HARVEY, a British subject, of 19, Hesketh Crescent, Erdington, Birmingham, and THOMAS JOSEPH CURTIS, a British subject, of 63, Primley Avenue, Ward End, Birmingham, 8, do hereby declare the nature of this invention to be as follows:—

This invention relates to vacuum cleaners of the type comprising a casing, mounted on wheels and adapted to be rolled along a surface to be cleaned; within the said casing an electric motor and a fan and brush adapted to be driven by the motor; and a pipe issuing from the casing through which air is driven by the fan when in operation. The cleaner may comprise also any other of the usual elements, but those named are alone directly relevant to the invention.

The object of the invention is to improve cleaners of this type especially in the direction of making them easier to construct and more satisfactory to use.

According to the invention, in a vacuum cleaner of the type specified, the said casing comprises (1) an upper portion, preferably of cast metal or moulded plastic, from which the said motor and fan are supported resiliently; (2) a lower portion, preferably of sheet metal or plastic mounted on the said wheels and supporting the said brush; and (3) a resi-

lient connection between the said pipe and the said fan. If the brush is driven by a belt from the motor, the brush is preferably supported on a hinged portion of the said lower portion, in such a manner that the brush is easily exposed for the fitting of a new belt.

One embodiment of the invention will now be described, by way of example, with reference to the accompanying drawing, in which Figure 1 is a sectional elevation and Figure 2 an elevation viewed from the left-hand end of Figure 2.

1 is the said upper part of the casing. 2 is the motor on whose shaft are mounted the fan 3 and a pulley 4. This combination is supported from brackets 5 and 6, integral with the casing part 1, through a resilient (e.g. rubber) ring 7 and strap 8. The pipe 9 is also integral with the part 1 and is connected to the outlet of the fan chamber by the flexible tube 10.

The whole of these parts are mounted on the sheet metal chassis 11 mounted on three wheels 12. The brush 13 driven by the belt 14 from the pulley 4 is mounted on a portion 15 of the chassis, hinged at 16. 17 is a removable cover over an aperture in the part 1 to permit access to the belt and pulley. 18 is the handle by which the whole carriage is moved.

Dated the 22nd day of September, 1943.

For the Applicants,

A. F. CORNOCK,  
Chartered Patent Agent.

## COMPLETE SPECIFICATION

### Improvements in Vacuum Cleaners

We, THE GENERAL ELECTRIC COMPANY LIMITED, of Magnet House, Kingsway, London, W.C.2, a British company, and FRANK HARVEY, a British subject, of 19, Hesketh Crescent, Erdington, Birmingham, and THOMAS JOSEPH CURTIS, a British subject, of 63, Primley Avenue, Ward End, Birmingham, 8, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to vacuum

cleaners of the type comprising a casing mounted on wheels and adapted to be moved over a surface to be cleaned, a motor-driven fan within said casing, usually but not invariably a brush which may also be driven by said motor and a pipe issuing from the casing through which air is driven by the fan when in operation. The cleaner may also include other elements, but only those recited above are essential to the present invention.

The object of the invention is to provide a construction of cleaner of this kind

which is easy and economical to produce, which is more satisfactory in use and which is well adapted to be easily and effectively serviced.

5 In accordance with the invention we provide a vacuum cleaner of the type referred to above and comprising a casing formed of two or more parts including a shaped upper part, and a lower or chassis 10 part in which are mounted the wheels and usually a brush, a motor and fan unit resiliently mounted within said casing and a connecting tube of resilient material connecting the outlet from the suction 15 chamber of the said motor and fan unit and the outlet from the casing.

The brush, when used, may be belt driven from an extension of the motor spindle, and is preferably mounted upon 20 a hinged or separable portion of the chassis so that it may be readily exposed for cleaning, adjustment or replacement or for the fitting of a new belt.

The invention is illustrated by way of 25 example in the accompanying drawings, in which Fig. 1 is a view in sectional side elevation of the cleaner, Fig. 2 is a view in front elevation of Fig. 1, and Fig. 3 is a part plan view showing the resilient 30 connecting pipe.

Referring to the drawing, 1 indicates the shaped upper portion of the casing including the suction nozzle, and 2 the 35 lower or chassis portion of the casing, both formed of cast or pressed sheet metal, or moulded material, said parts 1 and 2 being connected together in any convenient manner, e.g. by screws 3 accessible from below the cleaner.

40 A motor and fan unit 4 is mounted in the upper part 1 of the casing by the engagement of the edge 5 of the suction aperture in the front wall of the fan casing 4<sup>1</sup> over a flange 6 surrounding an 45 aperture 7 in a wall 8 provided in the upper part 1 of the casing and forming the rear of the mouth of the cleaner. A ring 9 of rubber or other elastic or resilient material is interposed between the 50 edge of the aperture 5 and the flange 6.

At the rear end the motor and fan unit 4 is surrounded by a rubber or other elastic or resilient ring 10 and this ring seats against an arcuate surface 11 provided on a boss 12 within the upper part 1 of the casing, the end of the unit 4 and the ring 10 being held in position against the boss 12 by a curved strip 13 hinged at one end to the boss and secured at the 60 other end by a screw 14 taking into the boss.

Wheels 15, 16 and 17 are mounted in bearings of any convenient form carried by the chassis portion 2 of the casing, 65 two wheels 15, 16 being mounted at the

forward end of the cleaner and one wheel 17 at the rear end. The wheel 17 may be adjusted in height relative to the casing in well known manner to vary the distance of the suction nozzle of the cleaner from 70 the surface to be cleaned.

The brush 15 may be mounted conveniently as shown, between bearing lugs 18 provided at each end of a slotted plate 19 mounted at the nozzle of the cleaner 75 in a readily detachable manner by means of bent lugs 20 engaging in holes 21 in the chassis part 2 of the casing and forked spring clips 22 fixed to the plate 19 and engaging behind headed studs 23 80 provided on the inside of the casing.

The brush is driven in the usual manner by a belt 24 from a driving pulley 25 at the forward end of the fan shaft. A suction pipe 26 of rubber or other resilient 85 material is connected to the outlet 27 from the fan chamber 4<sup>1</sup> and fits within the inlet end of the pipe 28, connected with or forming part of the upper part 1 of the casing, and leading to the dust 90 receptacle (not shown).

A removable cover 29 is provided over an aperture in the front wall of part 1 of the casing, giving ready access to the driving pulley 25 and the belt 24 driven 95 thereby. 30 is the usual handle whereby the whole cleaner is moved over the surface to be cleaned.

Having now particularly described and ascertained the nature of our said inven- 100 tion and in what manner the same is to be performed, we declare that what we claim is:—

1. A vacuum cleaner of the type referred to and comprising a casing 105 formed of two or more parts including a shaped upper part, and a lower or chassis part on which are mounted the wheels and usually a brush, a motor and fan unit resiliently mounted within said 110 casing and a connecting tube of resilient material connecting the outlet from the suction chamber of the said motor and fan unit and the air outlet from the casing.

2. A vacuum cleaner as claimed in Claim 1, wherein the motor and fan unit is supported entirely by the shaped upper 115 portion of the casing.

3. A vacuum cleaner as claimed in 120 Claim 1, wherein the motor and fan unit is supported by the shaped upper portion of the casing with the interposition of rubber or other elastic or resilient material between the unit and the supporting 125 surfaces within said upper part of the casing.

4. A vacuum cleaner as claimed in any of the preceding Claims wherein a rotary brush driven by the motor is 130

mounted in bearings in a slotted plate forming part of the chassis portion of the casing, said slotted plate being hinged to or readily detachable from the main  
5 chassis portion.

Dated this 16th day of October, 1944.

A. F. CORNOCK,  
Agent for the Applicants.

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*[This Drawing is a reproduction of the Original on a reduced scale.]*

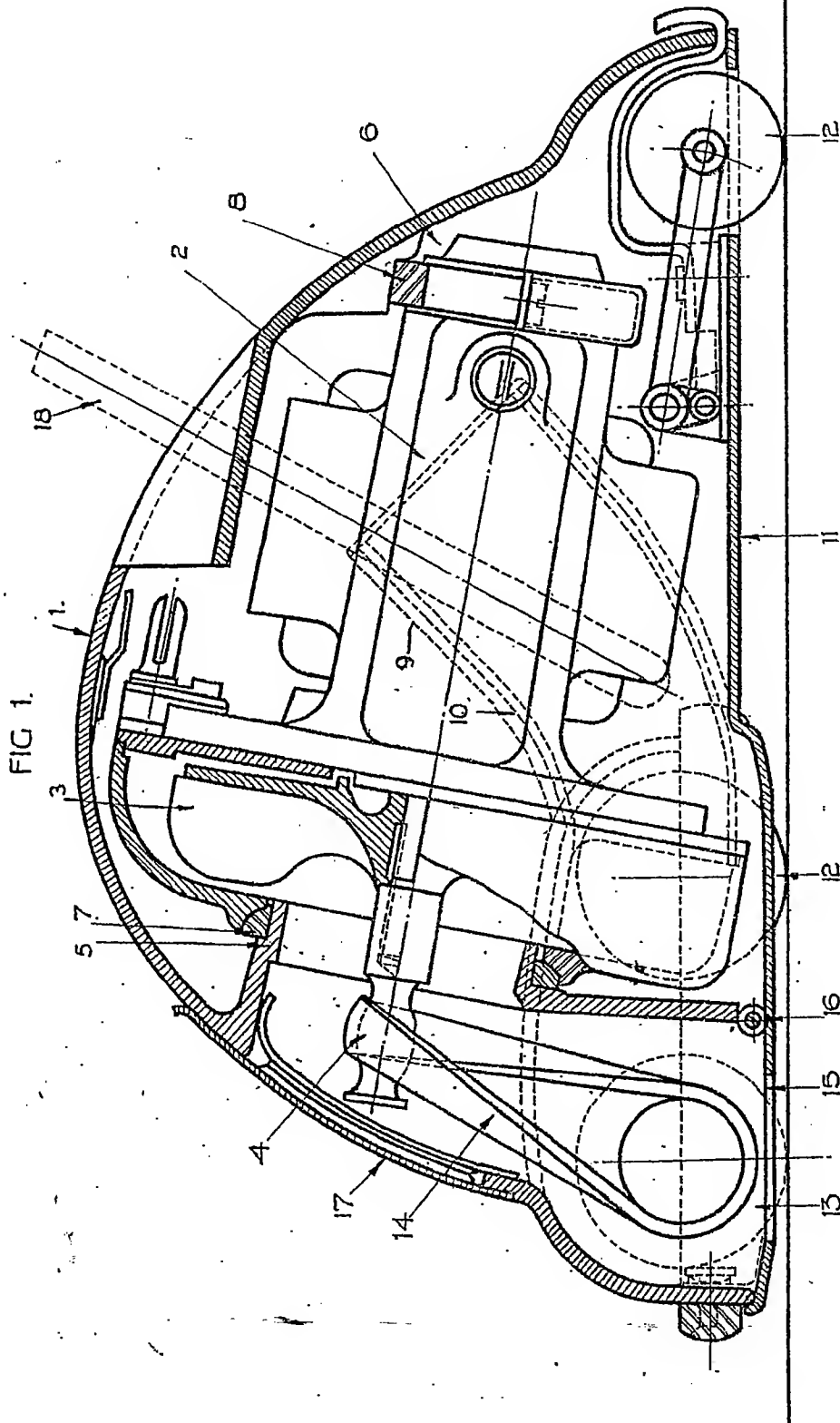
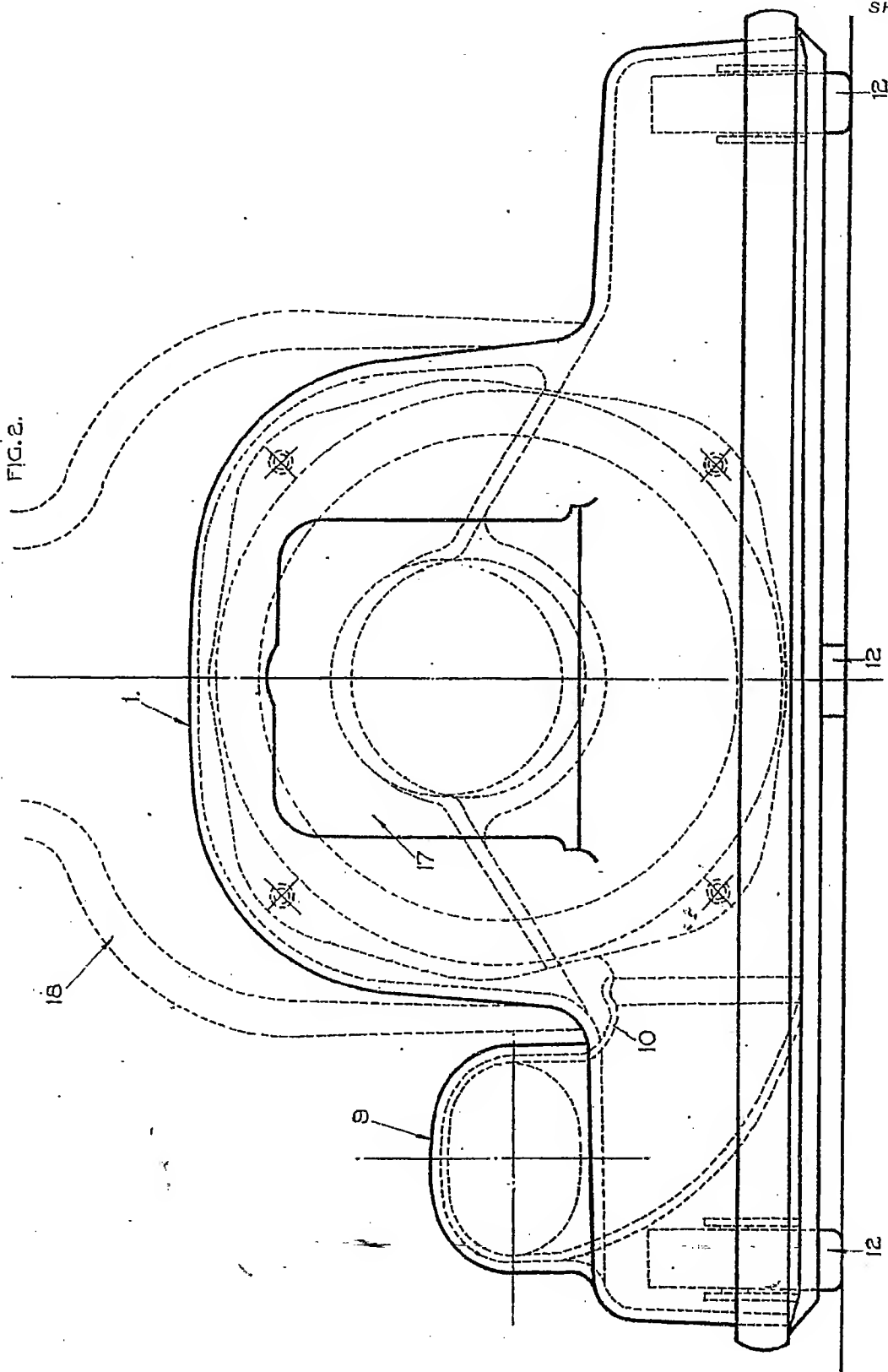
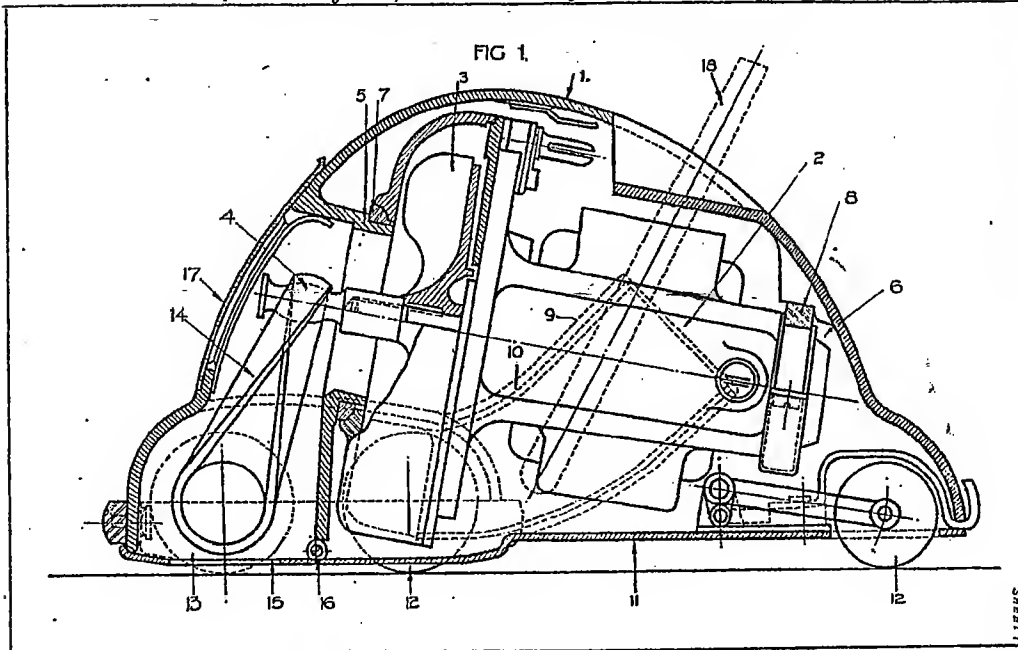


FIG. 2.

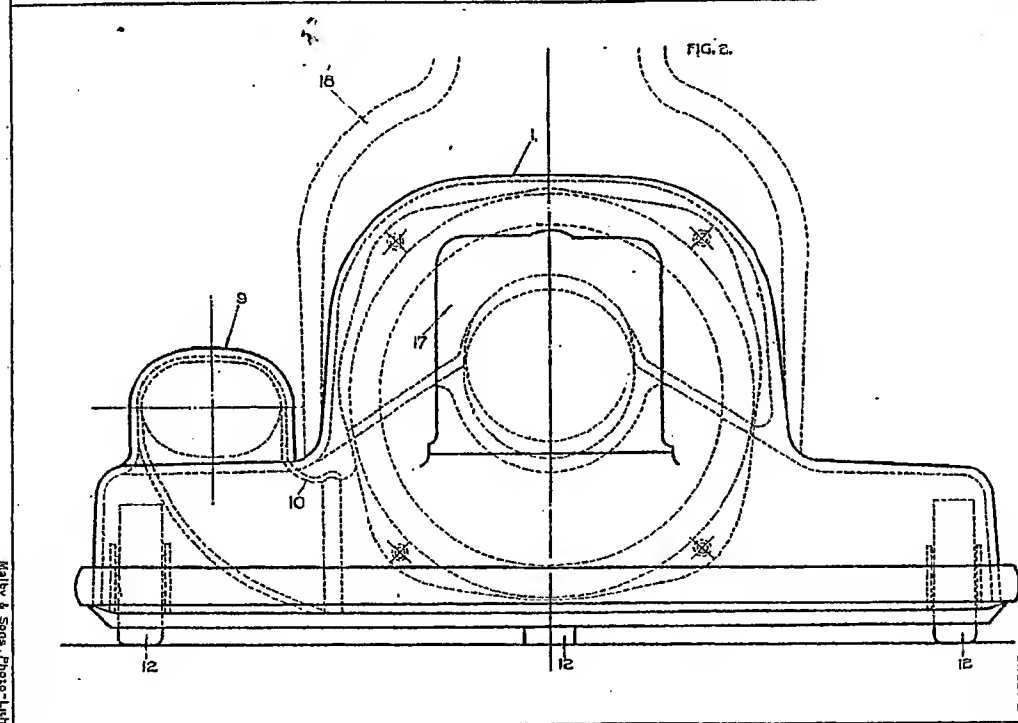


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568,958 PROVISIONAL SPECIFICATION



SHEET 1



2 SHEETS  
SHEET 2

[This Drawing is a reproduction of the Original on a reduced scale.]

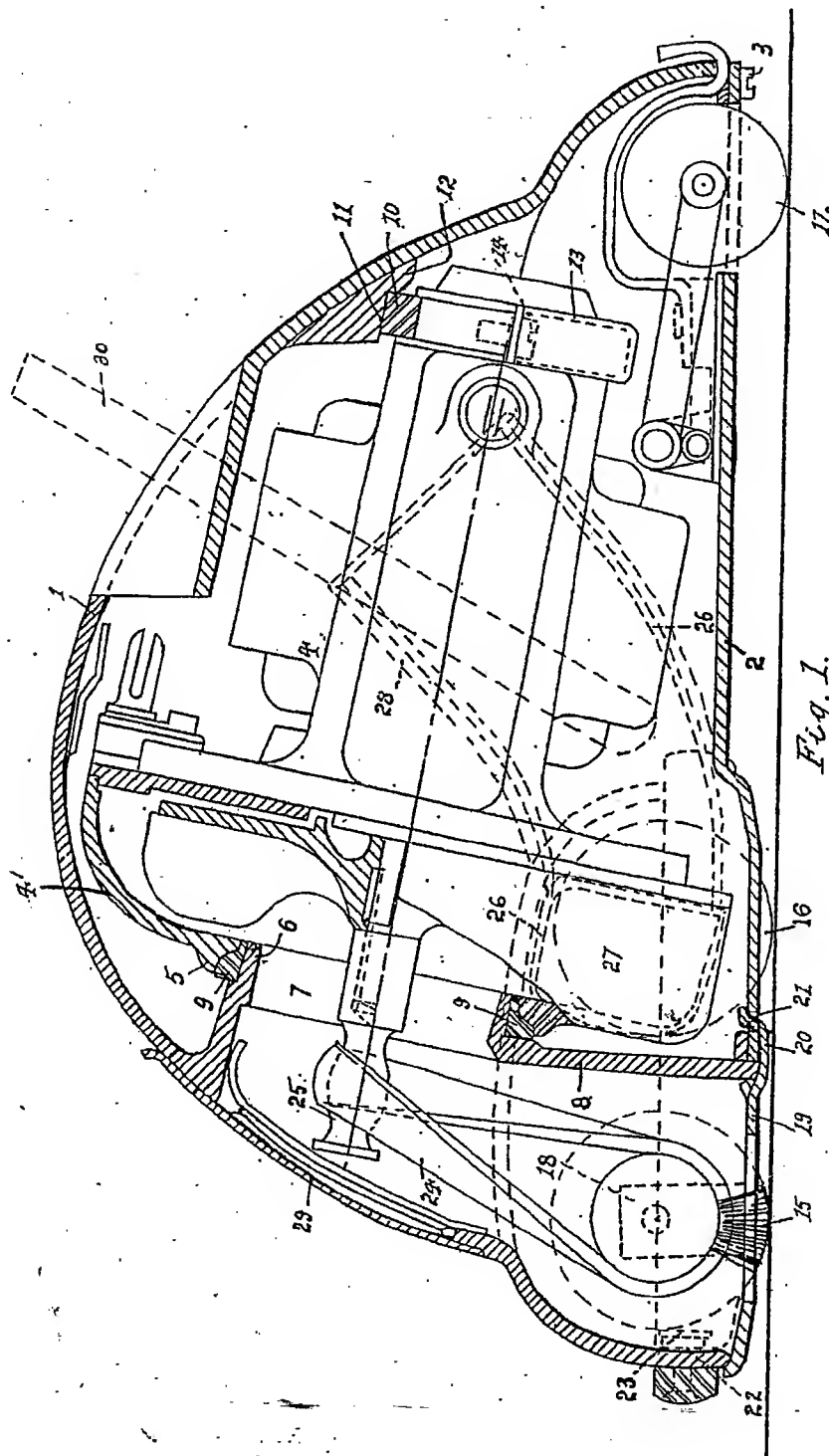
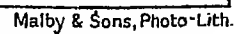


Fig. 1.





[This Drawing is a reproduction of the Original on a reduced scale.]

566,958 COMPLETE SPECIFICATION

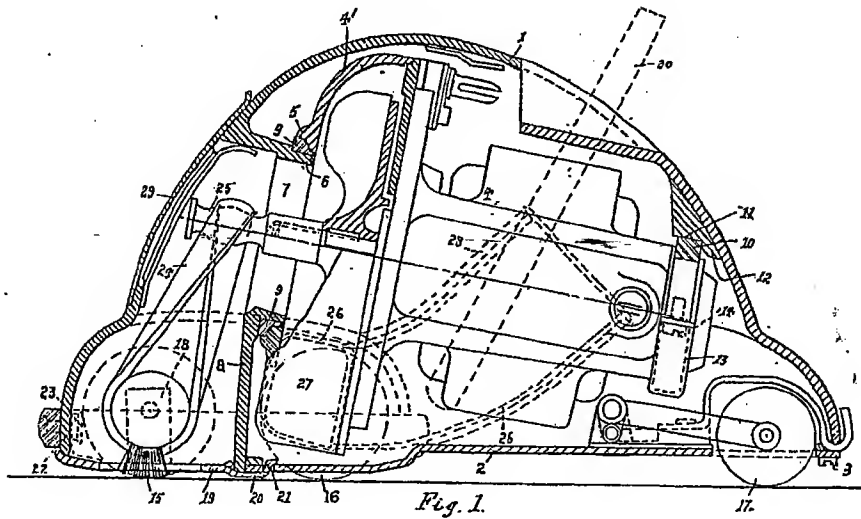


Fig. 1.

SHEET 1

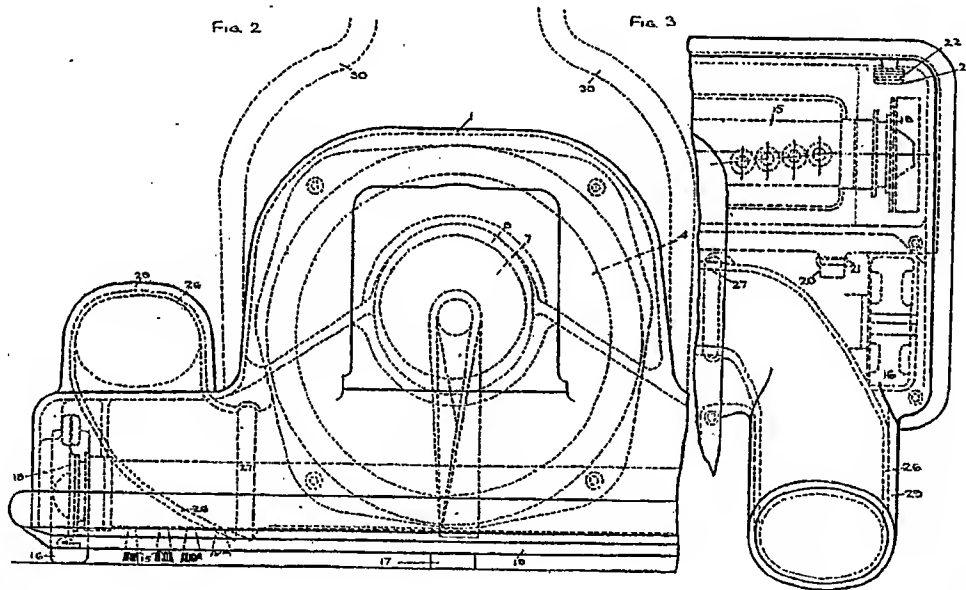


Fig. 2

Fig. 3

2 SHEETS  
SHEET 2